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(71) Applicant: Marconi Electronic Systems Limited  
Stanmore, Middlesex HA7 4LY (GB)

(72) Inventors:

• Molyneux-Berry, Robert Bewes  
Danbury, Essex, CM3 4PN (GB)

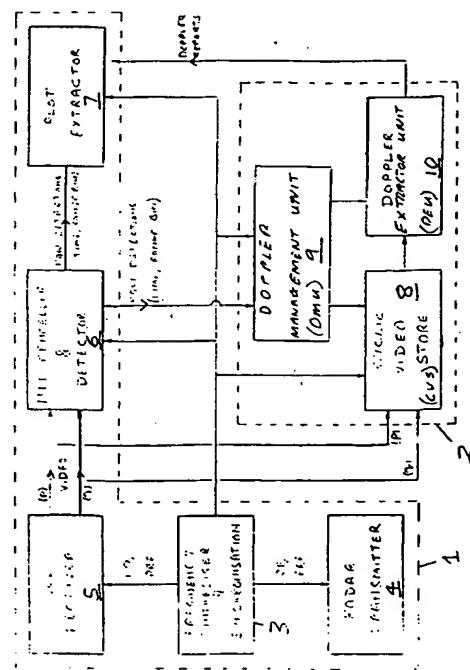
• Langsford, Peter Alan  
Maldon, Essex, CM9 6DU (GB)  
• Wardell, Colin  
Woodham Mortimer, Maldon,  
Essex, CM9 6SZ (GB)

(74) Representative: Fitchett, Stuart Paul  
GEC Patent Department,  
Waterhouse Lane  
Chelmsford, Essex CM1 2QX (GB)

### (54) Doppler radar

(57) There is provided radar apparatus, and a method, for determining the approach velocity of a target whereby the target is first classified as a "target of interest" by a thresholding process applied to successive signals to identify potential targets. Doppler processing is then applied only to a selected portion of data relating to the target of interest.

This invention enables existing moving target indicator MTI radars (1) to be upgraded to give full Doppler capability without the excessive processing capacity required by conventional Doppler radars.







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## EUROPEAN SEARCH REPORT

Application Number

EP 97 30 9035

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.6)						
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim							
X	US 3 725 923 A (CASTETS M ET AL) 3 April 1973 * abstract; figure 3 * * column 2, line 64 - column 3, line 47 * * column 5, line 59 - column 6, line 33 * ----	1, 3, 11, 12, 15, 16	G01S13/524 G01S13/22						
Y	US 5 485 157 A (LONG MAURICE W) 16 January 1996 * abstract; figure 1 * * column 5, line 34 - line 41 * * column 6, line 37 - line 62 * ----	2, 4, 6, 10, 17, 18							
X	US 5 442 359 A (RUBIN WILLIAM L) 15 August 1995 * abstract; figure 8 * * column 6, line 10 - line 21 * * column 8, line 53 - column 9, line 15 * ----	1, 3, 15, 16							
Y	SKOLNIK, M.I.: "Introduction to Radar Systems" 1981, McGRAW-HILL, US XP002107253 * page 101 - page 106; figure 4.4 * ----	2							
Y	US 4 809 002 A (TOGASHI FUSAJI ET AL) 28 February 1989 * abstract; figure 2 * * column 2, line 33 - line 53 * * column 8, line 7 - line 24 * ----	4, 6, 10, 17, 18	TECHNICAL FIELDS SEARCHED (Int.Cl.6)						
A		13	G01S						
<p>The present search report has been drawn up for all claims</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Place of search</td> <td style="width: 33%;">Date of completion of the search</td> <td style="width: 34%;">Examiner</td> </tr> <tr> <td>THE HAGUE</td> <td>25 June 1999</td> <td>Niemeijer, R</td> </tr> </table>				Place of search	Date of completion of the search	Examiner	THE HAGUE	25 June 1999	Niemeijer, R
Place of search	Date of completion of the search	Examiner							
THE HAGUE	25 June 1999	Niemeijer, R							
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document							
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ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.

EP 97 30 9035

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on. The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

25-06-1999

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 3725923	A	03-04-1973	FR	2096855 A	03-03-1972
			FR	2096856 A	03-03-1972
			DE	2133395 A	13-01-1972
			DE	2133001 A	13-01-1972
US 5485157	A	16-01-1996	CA	2159399 A,C	12-04-1996
US 5442359	A	15-08-1995	AU	699274 B	26-11-1998
			AU	3001895 A	25-01-1996
			CA	2193814 A	11-01-1996
			DE	69507954 D	01-04-1999
			EP	0767919 A	16-04-1997
			FR	2722005 A	05-01-1996
			JP	10509507 T	14-09-1998
			WO	9600909 A	11-01-1996
US 4809002	A	28-02-1989	JP	1640396 C	18-02-1992
			JP	3002433 B	16-01-1991
			JP	60169782 A	03-09-1985
			EP	0153130 A	28-08-1985